

LISTING OF CLAIMS

This listing of claims will replace all prior versions of claims in the application:

1. (currently amended) A method of producing a modified glutenin or seed-storage protein, the method comprising adding to ~~the~~ a glutenin or seed-storage protein an exogenous amino acid ~~domain~~ sequence from a protein other than said glutenin or seed-storage protein which confers to the modified protein the ability to bind a ligand ~~or other macromolecule~~, wherein the modified protein has an ability to incorporate into gluten.
2. (currently amended) The method ~~according to~~ of claim 1 wherein the ~~domain~~ exogenous amino acid sequence includes one or more cysteine residues.
3. (currently amended) The method ~~according to~~ of ~~claim 1~~ claim 2 wherein one or more cysteine residues are incorporated at one or both ends of the amino acid sequence of the protein.
4. (currently amended) The method ~~according to~~ of claim 1 wherein the modified protein further comprises one or more exogenous amino acid residues which confer to the protein an enhanced ability to incorporate into gluten when compared to said glutenin or seed-storage protein.
5. (currently amended) The method ~~according to~~ of claim 1 wherein the ~~ligand or other macromolecule to which the domain binds is~~ exogenous amino acid sequence binds selected from the group consisting of lipid and or starch.
6. (currently amended) The method ~~according to~~ of claim 5 wherein the ~~domain~~ exogenous amino acid sequence ~~capable of binding that binds~~ lipid is derived from barley oleosin ~~gene protein~~ or the ~~lipid binding regions of wheat CM16 protein~~.
7. (currently amended) The method ~~according to~~ of claim 5 wherein the ~~domain~~ exogenous amino acid sequence ~~capable of binding that binds~~ starch is derived from glucoamylase from *Aspergillus niger*.

8. (currently amended) The method ~~according to~~ of claim 1 wherein the glutenin or seed-storage protein is ~~selected from the group consisting of~~ a low molecular weight ~~glutenins~~ glutenin, high molecular weight ~~glutenins~~ glutenin, ~~gliadins~~ gliadin, ~~puroindolines~~ puroindoline, grain softness ~~proteins~~ protein, ~~friabilins~~ friabilin, and or Chloroform/Methanol-soluble ~~proteins~~ protein.

9. (currently amended) The method ~~according to~~ of claim 8 wherein the glutenin or seed-storage protein is C hordein from barley.

10. (currently amended) A modified glutenin or seed-storage protein having an ability to incorporate into gluten, ~~comprising and having~~ an exogenous amino acid ~~domain~~ sequence ~~inserted therein~~ which confers to the modified protein the ability to bind a ligand ~~or other macromolecule~~ said modified protein being produced by the method ~~according to~~ of claim 1.

11. (currently amended) A modified glutenin or seed-storage protein having an ability to incorporate into gluten, ~~comprising and having~~ an exogenous amino acid ~~domain~~ sequence ~~from a protein other than a corresponding unmodified glutenin or seed-storage protein inserted therein~~ which confers to the modified protein the ability to bind a ligand ~~or other macromolecule~~.

12. (currently amended) A ~~The~~ modified glutenin or seed-storage protein ~~according to~~ of claim 11 wherein the ~~ligand or other macromolecule to which the domain binds is~~ exogenous amino acid sequence binds a molecule selected from the group consisting of lipid ~~or, and~~ starch.

13. (currently amended) A ~~The~~ modified glutenin or seed-storage protein ~~according to~~ of claim 12 wherein the ~~domain~~ exogenous amino acid sequence ~~capable of binding that binds~~ lipid is derived from barley oleosin ~~gene~~ protein or the lipid-binding regions of wheat CM16 protein.

14. (currently amended) A ~~The~~ modified glutenin or seed-storage protein ~~according to~~ of claim 12 wherein the ~~domain~~ exogenous amino acid sequence ~~capable of binding that binds~~ starch is derived from glucoamylase from *Aspergillus niger*.

15. (currently amended) A ~~The~~ modified glutenin or seed-storage protein ~~according to~~ of claim 11 wherein the unmodified glutenin or seed-storage protein is ~~selected from the group consisting of a~~ low molecular weight ~~glutenins~~ glutenin, high molecular weight ~~glutenins~~ glutenin, ~~gliadins~~ gliadin,

~~puroindolines~~ puroindoline, grain softness ~~proteins~~ protein, ~~friabilins~~ friabilin, and or
Chloroform/Methanol-soluble ~~proteins~~ protein.

16. (previously presented) A modified glutenin or seed-storage protein selected from the group consisting of ANG/SBD/Cys7Cys 236, ANG/OHBD/Cys7Cys236, and ANG/CM16/Cys7Cys126, as hereinbefore defined.

17 – 22. (withdrawn)

23. (currently amended) Use of a the modified glutenin or seed-storage protein ~~according to~~ of claim 11 in the preparation of a food product.

24. (currently amended) The use ~~according to~~ of claim 23 wherein the food product is selected from the group consisting of leavened or unleavened breads, pasta, noodles, breakfast cereals, snack foods, cakes, pastries, and foods containing flour-based sauces.

25. (currently amended) Use of a the modified glutenin or seed-storage protein ~~according to~~ of claim 11 in the preparation of a non-food product.

26. (currently amended) The use ~~according to~~ of claim 25 wherein the non-food product is selected from the group consisting of films, coatings, adhesives, building materials, and packaging materials.

27. (currently amended) Use of a grain or part of a grain ~~containing a~~ comprising the modified glutenin or seed-storage protein ~~according to~~ of claim 11 in the preparation of a food product.